

US-PAT-NO: 5712993

DOCUMENT-IDENTIFIER: US 5712993 A

TITLE: System for creating graphical user interfaces using  
changeable models for constituent parts

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Abstract Text - ABTX (1):

In a graphical user interface (GUI) creation system, a GUI creator creates a form of a GUI interactively on a display screen. A control manager reads a control definition file from a control definition file storage, interprets the same and manages a control resulting from the interpretation. A control definition file creator creates a control definition file and records the same in the control definition file storage. A form manager manages forms recorded in a form storage and constituent parts recorded in a part storage. Through this arrangement the contents of the control definition file storage are rendered variable so that device information and definitions of a control may be readily changed. Constituent parts created are recorded in the part storage, and this enables the reuse of the constituent parts.

Application Filing Date - AD (1):

19950517

Detailed Description Text - DETX (4):

A form manager 5 manages a `form` which constitutes a GUI, and individual constituent parts which constitute the `form`. Each `form` created by the GUI creator 1 and each constituent part of the `form` are respectively recorded in a form storage 6 and a part storage 7. Any existing form and constituent part may be read respectively from the form storage 6 and part storage 7 and held in an internal memory.

Detailed Description Text - DETX (6):

Numeral 9 designates a controller which controls the GUI creator 1, the control manager 2, and the form manager 5 to execute a GUI creating operation, which will be described in detail later.

Detailed Description Text - DETX (13):

In the figure, the character string beginning with symbol "@" instructs reference to certain information held in the control manager 2 and/or in the form manager 5 (such information will be referred to as "information within the GUI creation system"). For example, in the description represented by (C), it is shown that a constituent part of this particular class has a monochrome image if the type of device (@ProductType) is an "Electronic Notebook" (i.e.,

if an "Electronic Notebook Control" is held in the control manager 2); or else the constituent part has a color image.

Detailed Description Text - DETX (21):

FIG. 4 is a flow chart of a GUI creating operation which is executed by the GUI creator 1, the control manager 2, and the form manager 5 under the control of the controller 9 in FIG. 1. The process of GUI creating operation will now be explained with reference to FIG. 4.

Detailed Description Text - DETX (25):

At step S2, on the basis of the aforesaid information held in the internal memory of the control manager 2, the GUI creator 1 and the form manager 5 are initialized.

Detailed Description Text - DETX (27):

At step 4, the `form` thus created in step S3 is registered in the form storage 6 by the form manager 5.

Detailed Description Text - DETX (31):

At step S12, with the item "New" selected at step S11, the GUI creator 1 and the form manager 5 are initialized anew.

Detailed Description Text - DETX (36):

At step S16, the constituent part selected at step S15 is read from the part storage 7 by the form manager 5 and is held in its internal memory.

Detailed Description Text - DETX (46):

At step S23, the constituent part created at step S19, as well as the constituent part correlated with the view at step S22, is held by the form manager 5.

Detailed Description Text - DETX (47):

At step S24, constituent parts are edited as required from the part editor area 18 on the display screen 11, by setting attribute values for the individual constituent parts and/or writing event functions. Constituent parts retained by the form manager 5 are saved in the part storage 7 by selecting a save button 19 in the part editor area 18.

Detailed Description Text - DETX (52):

Of these pieces of information, those common to the GUIs to be created, such as the product type name (@ ProductType) and version (@ Version), are held by the control manager 2. Information which may vary according to the GUI to be created, such as size of the `form` (@ FORMWIDTH, @ FORMHEIGHT), is held by the form manager 5. At this step S31, therefore, necessary information is obtained from the internal memory of either one of the control manager or the form

manager according to a character string that follows "@" in the portion which refers to the internal information of the GUI creation system, and the information thus obtained is set as a value.

Detailed Description Text - DETX (65):

Constituent parts created are recorded individually, i.e., separately from each other, in the part storage 7 under the management of the form manager 5. In the `form` creation by the GUI creator 1, therefore, it is possible to allow a plurality of `forms` to share a constituent part (or constituent parts) recorded in the part storage 7 by using the constituent part (or constituent parts) as it is (or they are). It is also possible to customize any recorded constituent part to suit it to the object `form`, so that existing constituent parts can be effectively utilized.